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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/588,820	UE ET AL.	
	Examiner	Art Unit	
	PETER CHENG	2463	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-28 and 32-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-28 and 32-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on August 9, 2006, with respect to the four (4) references identified in the "Foreign Patent Documents" section, fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein, i.e., in the "Foreign Patent Documents" section, has not been considered.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it exceeds 150 words.

Correction is required. See MPEP § 608.01(b).

Election/Restrictions

4. Applicant's election with traverse of Claims 23-28 and 32-37 in the reply filed on July 21, 2010 is acknowledged. The traversal is on the ground(s) that the restriction requirement allegedly imposes inappropriate burden on the Applicant as well as allegedly unwarranted searching inconvenience on the public. This is not found persuasive because the policy requirement that each patent only provides protection for one invention outweighs the alleged burden and inconvenience mentioned by Applicant.

The requirement is still deemed proper and is therefore made FINAL.

Please be advised that in addition to the claims above elected by Applicant, claims 38-44 are further deemed to read on the embodiment elected by the Applicant. Therefore, Claims 23-28 and 32-44 are pending in this application and are examined herein.

Claim Objections

5. Claims 41 and 42 are objected to because of the following informalities: Claims 41 and 42 recite non-grammatical phrases such as "when attached to a new attachment point and been allocated a new address", "when the associated timer expired by the mobile terminal" and "when detected an data route change by the crossover node". Appropriate correction is required.

Applicant is further hereby required to review **all** pending claims to ensure that minor grammatical and typographical errors are corrected, including ensuring that proper antecedent bases exist for all claim terms.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 23-24, 26-28, 34, 38 and 41-42** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,591,101 B1 to Shimbori, in view of U.S. Patent No. 6,310,859 B1 to Morita et al.

8. **As to Claim 23**, Shimbori discloses a system for managing signaling in a data communication network for achieving fast signaling route re-establishment comprising:

i. a mobile capable communication terminal (Fig. 4, "mobile station MS4") that can change its point of attachment and communication address during a communication session (col. 14, lines 47-53 and Fig. 9, disclosing the Mobile Station MS 4 moving from "mobile switching center MSC A 2" to "MSC B 3" and back to "MSC A 2", i.e., "chang[ing] its point of attachment and communication address during a communication session"), and is able to recognize previously used attachment point and address (col. 2, lines 14-28, disclosing the mobile station MS 4 capable of recognizing that it has moved from its "home service area" to a "destination" service area "A", thus disclosing

that the mobile station MS 4 is "able to recognize previously used attachment point and address");

ii. a correspondent terminal that maintains communication session with the said mobile capable communication terminal (Fig. 9, "home MSC 1", "destination A MSC 2" or "destination B msc 3", all disclosing "a correspondent terminal"), and is able to recognize previously used address by the said mobile capable communication terminal (col. 9, lines 43-47, col. 10, lines 23-62, Fig. 4, "data area for home msc subscribers", "data area for visitors" and "home msc discrimination information" and Fig. 9, in general, all disclosing that each "MSC" is capable of determining, from a "location registration" sent from the MS 4, whether such MS 4 is in its "home" service area and is already registered, in which case information for such MS 4, i.e., "previously used address by the said mobile capable communication terminal", will already be stored in "data area for home msc subscribers", or whether such MS 4 is a visitor mobile station, in which case information on such visiting MS 4 will be transferred from its "home mobile switching center", i.e., "previously used address", and stored in "data area for visitors", thus disclosing "able to recognize previously used address by the said mobile capable communication terminal"); and

iii. a single or plural network elements along the data path of the said communication session (Fig. 9, "destination A/B MSC 2/3", i.e., such "single or plural network element) that are capable of freezing the signaling state for the said communication session (Fig. 9, "subscriber data holding 914" and col. 15, lines 12-16, disclosing putting the "subscriber data" for MS 4 in a "holding state", i.e., "freezing the

signaling state for the said communication session") and reactivating the said signaling state upon reception of predefined signaling messages (Fig. 9, "subscriber data response 908" and "subscriber data registration 916" and col. 15, lines 20-29, disclosing "restor[ing] the subscriber data of the MS 4" after the "subscriber data response 908" signal is received).

Shimbori does not expressly disclose "with relevant network resources released"; "with relevant network resources re-allocated."

Morita discloses "with relevant network resources released" (col. 2, lines 13-20 and 35-44, disclosing "releasing the resources assigned to the user" if a "measured time period exceeds the reference time period"); "with relevant network resources re-allocated" (col. 2, lines 21-22 and col. 3, lines 11-13, disclosing "recovering the communication mode" and col. 24, lines 23-27, disclosing "communication can be reestablished using idle resources in the network or common reserved resources secured by the user").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Morita, in conjunction with the method as disclosed and taught by Shimbori. In particular, Morita and Shimbori are combinable to teach and disclose "a single or plural network elements along the data path of the said communication session that are capable of freezing the signaling state for the said communication session with relevant network resources released and reactivating the said signaling state with relevant network resources re-allocated upon reception of predefined signaling messages." The suggestion or motivation would have been to

provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Morita, col. 1, lines 5-10 and 50-62).

9. **As to Claim 24**, Shimbori and Morita disclose and teach the system as in the parent claim 23.

Shimbori further discloses further comprising a network element along the data path of the said communication session that is capable of detecting the change in the data path (Fig. 9, "home msc 1") and initiate the message for updating the state information on the overlapped data path (Fig. 9, disclosing that the "home msc 1" sending a "subscriber data response 904" signal to "destination b msc 3" and a "subscriber data delete request 905" to "destination a msc 2", both messages disclosing "initiate the message for updating the state information on the overlapped data path").

Morita discloses releasing the network resources on the previous data path (col. 2, lines 13-26 and 35-44, disclosing "releasing the resources assigned to the user" and "releas[ing] transmission path resources" if a "measured time period exceeds the reference time period").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Morita, in conjunction with the method as disclosed and taught by Shimbori. In particular, Morita and Shimbori are combinable to teach and disclose "further comprising a network element along the data path of the said communication session that is capable of detecting the change in the data path and initiate the message for releasing the network resources on the previous data path and updating the state information on the overlapped data path." The suggestion or

motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Morita, col. 1, lines 5-10 and 50-62).

10. **As to Claim 26**, Shimbori and Morita disclose and teach the system as in the parent claim 23.

Shimbori further discloses wherein the said correspondent terminal communicating with the said mobile capable communication terminal (Fig. 9, "home MSC 1", "destination A MSC 2" or "destination B msc 3", all disclosing "a correspondent terminal") is capable of changing point of attachment and communication address during the said communication session (col. 2, lines 45-59, disclosing the "communication address" of the mobile station ms 4, and Fig. 9, disclosing that each of "home MSC 1", "destination A MSC 2" or "destination B msc 3", i.e., each "correspondent terminal" is capable of distinguishing the current and previous point of attachment and communication address of the mobile station MS 4.)

11. **As to Claim 27**, Shimbori and Morita disclose and teach the system as in the parent claim 23.

Shimbori further discloses comprising: i. a local database for storing the attachment point and communication address information (Fig. 4, disclosing "subscriber data" database stored in each "mobile switching center", including "destination a msc 2" and "destination b msc 3" in Fig. 9, wherein the fields "locating cell number" and "home msc discrimination information", and others, disclose the attachment point and communication address information); and

ii. a timer associated with the attachment point and communication address information; whereby the stored information would be removed when the timer expires (Fig. 9, "timing for subscriber data deletion" and col. 15, lines 29-32).

12. **As to Claim 28**, Shimbori and Morita disclose and teach the system as in the parent claim 23.

Shimbori further discloses comprising: i. a local database for storing the said mobile capable communication terminal identity and communication address information (col. 2, lines 45-58, col. 5, lines 15-25, col. 9, lines 30-44, disclosing "registering the subscriber data", thus disclosing "storing the said mobile capable communication terminal identity", and Fig. 4, disclosing "subscriber data" database stored in each "mobile switching center", including "destination a msc 2" and "destination b msc 3" in Fig. 9, wherein the fields "data transferred from visitor's home msc", "locating cell number" and "home msc discrimination information", and others, disclose the said mobile capable communication terminal identity and communication address information); and

ii. a timer associated with the identity and communication address information; whereby the stored information would be removed when the timer expires (Fig. 9, "timing for subscriber data deletion" and col. 15, lines 29-32, disclosing a timer that, if counted down, will resulting the deletion of the stored subscriber data information).

13. **As to Claim 34,** Shimbori discloses a method for the resource management signaling in a data communication network to achieve fast signaling state re-establishment comprising the steps of:

i. detecting the change of data route (Fig. 9, disclosing the "ms 4" sending a "location registration 913" signal to the new "destination b msc 3", which then triggers the transmission of "subscriber data request 903" to the "home msc 1", i.e., a "crossover node", thus disclosing and teaching "detecting the change of data route"), and sending messages for updating signaling status along the previous data path for the communication session by a crossover node along the communication data path of a mobile terminal (Fig. 9, disclosing the "home msc 1", i.e., the crossover node, sending a "subscriber data delete request 905" to "destination a msc 2", i.e., "sending messages for updating signaling status along the previous data path for the communication session");

ii. setting the signaling state for the communication session to dormant mode by the network elements capable of processing the said release message along the previous data path (Fig. 9, "subscriber data holding 914" and col. 15, lines 12-16, disclosing the "destination a msc 4" receiving a "subscriber data delete request 905" signal, i.e., "by the network elements capable of processing the said release message along the previous data path", putting the "subscriber data" for MS 4 in a "holding state", i.e., "setting the signaling state for the communication session to dormant mode");

iii. detecting the return to the old data path (Fig. 9, disclosing the "destination a msc 2" detecting that the "ms 4" has moved into its coverage area by means of the "location registration 915", i.e., "detecting the return to the old data path"), and send messages for restoring the signaling state along the old data path by the said mobile terminal (Fig. 9, disclosing the "ms 4", i.e., the mobile terminal, sending a "location

registration 915" signal to the "destination a msc 2", thereby activating the process of restoring the signaling state along the old path, "by the said mobile terminal"); and

iv. reactivating the signaling state by the said network elements capable of processing the said restore message (Fig. 9, "subscriber data response 908" and "subscriber data registration 916" and col. 15, lines 20-29, disclosing "restor[ing] the subscriber data of the MS 4" after the "subscriber data response 908" signal is received by the "destination a msc 2", i.e., " by the said network elements capable of processing the said restore message").

Shimbori does not expressly disclose for releasing network resources; and releasing corresponding network resources; restoring the resources; re-allocating corresponding network resources.

Morita discloses for releasing network resources (col. 2, lines 13-20 and 35-44, disclosing "releasing the resources assigned to the user" if a "measured time period exceeds the reference time period"); and releasing corresponding network resources (col. 2, lines 13-20 and 35-44, disclosing "releasing the resources assigned to the user" if a "measured time period exceeds the reference time period"); restoring the resources (col. 2, lines 21-22 and col. 3, lines 11-13, disclosing "recovering the communication mode" and col. 24, lines 23-27, disclosing "communication can be reestablished using idle resources in the network or common reserved resources secured by the user"); re-allocating corresponding network resources (col. 2, lines 21-22 and col. 3, lines 11-13, disclosing "recovering the communication mode" and col. 24, lines 23-27, disclosing

"communication can be reestablished using idle resources in the network or common reserved resources secured by the user").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Morita, in conjunction with the method as disclosed and taught by Shimbori. In particular, Morita and Shimbori are combinable to teach and disclose "sending messages for releasing network resources along the previous data path for the communication session; releasing corresponding network resources by the network elements capable of processing the said release message along the previous data path; send messages for restoring the signaling state and resources along the old data path by the said mobile terminal; reactivating the signaling state and re-allocating corresponding network resources by the said network elements capable of processing the said restore message." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Morita, col. 1, lines 5-10 and 50-62).

14. **As to Claim 38,** Shimbori discloses a method for the resource management signaling in a data communication network to achieve fast signaling state re-establishment comprising the steps of:

i. detecting the change of data route (Fig. 9, disclosing the "ms 4" sending a "location registration 913" signal to the new "destination b msc 3", which then triggers the transmission of "subscriber data request 903" to the "home msc 1", i.e., a "crossover node", thus disclosing and teaching "detecting the change of data route"), and sending messages for updating signaling status along the previous data path for the

communication session by a crossover node along the communication data path of a mobile terminal (Fig. 9, disclosing the "home msc 1", i.e., the crossover node, sending a "subscriber data delete request 905" to "destination a msc 2", i.e., "sending messages for updating signaling status along the previous data path for the communication session");

ii. setting the signaling state for the communication session to dormant mode by the network elements capable of processing the said release message along the previous data path (Fig. 9, "subscriber data holding 914" and col. 15, lines 12-16, disclosing the "destination a msc 4" receiving a "subscriber data delete request 905" signal, i.e., "by the network elements capable of processing the said release message along the previous data path", putting the "subscriber data" for MS 4 in a "holding state", i.e., "setting the signaling state for the communication session to dormant mode");

iii. detecting the said mobile terminal's return to the old data path (Fig. 9, disclosing the "destination a msc 2" detecting that the "ms 4" has moved into its coverage area by means of detecting the "location registration 915", i.e., "detecting the return to the old data path"), and sending messages for restoring the signaling state to the old data path by the said crossover node (Fig. 9, disclosing the "home msc 1", i.e., the "crossover node", sending a "subscriber data response 908" to restore the signaling state back to the old data path ending at "destination a msc 2", thus disclosing this limitation); and

iv. reactivating the signaling state by the said network elements capable of processing the said restore message (Fig. 9, "subscriber data response 908" and

"subscriber data registration 916" and col. 15, lines 20-29, disclosing "restor[ing] the subscriber data of the MS 4" after the "subscriber data response 908" signal is received by the "destination a msc 2", i.e., " by the said network elements capable of processing the said restore message").

Shimbori does not expressly disclose for releasing network resources; and releasing corresponding network resources; restoring the resources; re-allocating corresponding network resources.

Morita discloses for releasing network resources (col. 2, lines 13-20 and 35-44, disclosing "releasing the resources assigned to the user" if a "measured time period exceeds the reference time period"); and releasing corresponding network resources (col. 2, lines 13-20 and 35-44, disclosing "releasing the resources assigned to the user" if a "measured time period exceeds the reference time period"); restoring the resources (col. 2, lines 21-22 and col. 3, lines 11-13, disclosing "recovering the communication mode" and col. 24, lines 23-27, disclosing "communication can be reestablished using idle resources in the network or common reserved resources secured by the user"); re-allocating corresponding network resources (col. 2, lines 21-22 and col. 3, lines 11-13, disclosing "recovering the communication mode" and col. 24, lines 23-27, disclosing "communication can be reestablished using idle resources in the network or common reserved resources secured by the user").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Morita, in conjunction with the method as disclosed and taught by Shimbori. In particular, Morita and Shimbori are combinable

to teach and disclose "sending messages for releasing network resources along the previous data path for the communication session; releasing corresponding network resources by the network elements capable of processing the said release message along the previous data path; sending messages for restoring the signaling state and network resources to the old data path by the said crossover node; reactivating the signaling state and re-allocating corresponding network resources by the said network elements capable of processing the said restore message." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Morita, col. 1, lines 5-10 and 50-62).

15. **As to Claim 41**, Shimbori and Morita disclose and teach the method as in the parent claim 34.

Shimbori further discloses comprising the steps of: i. storing previously used address and attachment point information in a local database (Fig. 4, disclosing "subscriber data" database stored in each "mobile switching center", including "destination a msc 2" and "destination b msc 3" in Fig. 9, wherein the fields "locating cell number" and "home msc discrimination information", and others, disclose the attachment point and communication address information) with a timer associated by the mobile terminal (Fig. 9, "timing for subscriber data deletion" and col. 15, lines 29-32, disclosing that the process of beginning the "timing for subscriber data deletion" is initiated when the "mobile station ms 4" moves to "destination b msc 3", thus disclosing "by the mobile terminal");

ii. searching the data base when attached to a new attachment point and been allocated a new address by the mobile terminal (col. 11, lines 10-25, disclosing any given "mobile switching center" "confirming" whether a location registration request sent by a mobile station ms 4 when such mobile station roams into the coverage area of such MSC, i.e., "by the mobile terminal", is in the "home" or "visitor" section, thus teaching "searching the data base when attached to a new attachment point and been allocated a new address by the mobile terminal"); and

ii. removing the address and attachment point information from the database when the associated timer expired by the mobile terminal (Fig. 9, "timing for subscriber data deletion" and col. 15, lines 29-32, disclosing removing the "subscriber data" locally stored in the old attachment point "destination a msc 2", if the "timing for subscriber data deletion" elapses, i.e., if the "mobile station ms 4" causes the "timing for subscriber data" to elapse by not roaming back to the old attachment point "msc 2", thus teaching "when the associated timer expired by the mobile terminal").

16. **As to Claim 42**, Shimbori and Morita disclose and teach the method as in the parent claim 38.

Shimbori further discloses comprising the steps of: i. storing the mobile terminal's previously used path information in a local database (Fig. 4, disclosing "subscriber data" database stored in each "mobile switching center", including "destination a msc 2" and "destination b msc 3" in Fig. 9, wherein the fields "locating cell number" and "home msc discrimination information", and others, disclose the attachment point and communication address information) with a timer associated (Fig. 9, "timing for

subscriber data deletion" and col. 15, lines 29-32, disclosing that the process of beginning the "timing for subscriber data deletion" is initiated when the "mobile station ms 4" moves to "destination b msc 3") when a data route change is detected by the crossover node (Fig. 9, "timing for subscriber data" is begun after the "home msc 1", i.e., the crossover node, receives the signal "subscriber data delete response 906" from the old attachment point "msc a 2", thus teaching "when a data route change is detected by the crossover node");

ii. searching the data base (col. 15, lines 1-11, disclosing that the home MSC 1, i.e., the "crossover node", determining that the mobile station ms 4 is no longer associated with the old attachment point MSC 2, when such "MSC 1" receives signal "subscriber data request 903" from a new attachment point msc 3, thus teaching searching the database of path information stored in the msc 1) when detected an data route change by the crossover node (col. 15, lines 1-11 and Fig. 9, "subscriber data request 903" being received at MSC 1, i.e., the crossover node, thus teaching the crossover node detecting a data route change); and

ii. removing the path information from the database when the associated timer expires (Fig. 9, "timing for subscriber data deletion" and col. 15, lines 29-32, disclosing removing the locally stored "subscriber data" if the "timing for subscriber data deletion" elapses).

Morita discloses by the crossover node (col. 15, lines 25-45, disclosing "resource managers" installed through a "service control point" that relinquishes unneeded resources; col. 18, lines 8-14, disclosing a "service control point" that implements the

relinquishing of resources, thus such "service control point" disclosing "by the crossover node").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Morita, in conjunction with the method as disclosed and taught by Shimbori. In particular, Morita and Shimbori are combinable to teach and disclose " ii. removing the path information from the database when the associated timer expires by the crossover node." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Morita, col. 1, lines 5-10 and 50-62).

17. **Claims 25, 35-36 and 39-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,591,101 B1 to Shimbori, in view of U.S. Patent No. 6,310,859 B1 to Morita et al., further in view of U.S. Patent No. 7,193,968 B1 to Kapoor et al.

18. **As to Claim 25,** Shimbori and Morita disclose and teach the system as in the parent claim 23.

Shimbori further discloses wherein the said mobile capable communication terminal further comprising:

i. means for implementing (Fig. 9, "ms 4") preferred treatment of signaling state over previous data path (Fig. 9, disclosing that the MS mobile station 4 being capable of sending "location registration (913)" to "destination b msc 3", thereby initiating the process of placing the "subscriber data" signaling state then stored in "destination a msc

2" on hold, as indicated by "act=2", wherein such subscriber data in "destination a msc 2" remains undeleted and pertains to "the previous data path" from "destination a msc 2" to "home msc 1", thereby disclosing and teaching that such "act=2"/"on hold" state is a "preferred treatment of signaling state over previous data path") by messages for setting up signaling state over the new data path (Fig. 9, disclosing that the MS mobile station 4 being capable of sending "location registration (913)" to "destination b msc 3", thereby initiating the process of setting new signaling state over the new data path from "destination b msc 3" to "home msc 1", such "location registration 913" disclosing "by messages for setting up signaling state over the new data path") ; and

ii. determining the time period for keeping a previously used communication address information. (Fig. 9, "timing for subscriber data deletion" and col. 15, lines 17-32, disclosing counting down a "subscriber data delete timing period", thus teaching determining the time period for keeping a previously used communication address information).

Morita discloses means for calculating a dormant time period by using information of the previous network connection status and characteristics (Abstract, col. 2, lines 31-43 and col. 19, line 50 – col. 20, line 63, disclosing utilizing the "frequency of use" and "working rates of resources in the network", i.e., "by using information of the previous network connection status and characteristics", to determine a dormant time period the elapsing of which dormant time period will result in the release of currently utilized network resources).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Morita, in conjunction with the method as disclosed and taught by Shimbori. In particular, Morita and Shimbori are combinable to teach and disclose "ii. means for calculating the time period for keeping a previously used communication address information by using information of the previous network connection status and characteristics." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Morita, col. 1, lines 5-10 and 50-62).

Kapoor discloses indicating to the network its treatment of the data flow by including a flag in the messages (Fig. 3, "type of service field 312" and "flags field 321", col. 3, lines 16-19 and 23-25, disclosing "tos field 312", included in an IP packet, that indicates to the receiving network "how an upper layer protocol would like a current packet to be handled, and assigns packets various levels of importance").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Kapoor, in conjunction with the method as disclosed and taught by Shimbori and Morita. In particular, Kapoor and Shimbori are combinable to teach and disclose "i. means for indicating preferred treatment of signaling state over previous data path by including a flag in the messages for setting up signaling state over the new data path." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Kapoor, col. 1, lines 5-10).

19. **As to Claim 35,** Shimbori and Morita disclose and teach the system as in the parent claim 34.

Shimbori further discloses further comprising the steps of:

i. said resource release message (Fig. 9, "subscriber data delete request") sent to old data path by the said crossover router (Fig. 9, "subscriber data delete request" sent from the "home msc 1", i.e., crossover router, to the "destination a msc 2", i.e., the old attachment point of the old data path); and

ii. deleting the signaling state in the dormant mode when the timer expires by the said network elements along the old data path (Fig. 9, "timing for subscriber data deletion" and col. 15, lines 12-32, disclosing deleting the dormant subscriber data, i.e., the "signaling state", stored in the "destination a msc 2" as well as the "home msc", i.e., by the said network elements along the old data path, if the timer value expires).

Kapoor discloses including a timer value with the message (col. 5, lines 32-34 and Fig. 3, "time-to-live 330" field, disclosing a time value field in the message).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Kapoor, in conjunction with the method as disclosed and taught by Shimbori and Morita. In particular, Kapoor and Shimbori are combinable to teach and disclose "i. including a timer value with the said resource release message sent to old data path by the said crossover router." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Kapoor, col. 1, lines 5-10).

20. **As to Claim 36,** Shimbori, Kapoor and Morita disclose and teach the system as in the parent claim 35.

Shimbori further discloses further comprising:

a message for setting up signaling state for the new data path by the said mobile terminal (Fig. 9, "location registration (913)" sent by the mobile terminal MS 4 to the new attachment point "destination b msc 3", such "location registration 913" initiates a process of setting up signaling state for the new data path involving the new attachment point msc 3).

Kapoor discloses the step of informing the preferred timer value through a message (col. 5, lines 32-34 and Fig. 3, "time-to-live 330" field, disclosing a preferred timer value field in the message).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Kapoor, in conjunction with the method as disclosed and taught by Shimbori and Morita. In particular, Kapoor and Shimbori are combinable to teach and disclose "further comprising the step of informing the preferred timer value through a message for setting up signaling state for the new data path by the said mobile terminal." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Kapoor, col. 1, lines 5-10).

21. **As to Claim 39**, please see rejection for Claim 35, which teaches the same limitations.

22. **As to Claim 40**, please see rejection for Claim 36, which teaches the same limitations.

23. **Claims 32** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,591,101 B1 to Shimbori, in view of U.S. Patent No. 7,193,968 B1 to Kapoor et al.

24. **As to Claim 32,** Shimbori discloses a method for the resource management signaling in a data communication network to support multiple connections for a communication session and achieve better efficiency in resources utilization comprising the steps of:

i. obtaining a new network connection for an existing communication session by a communication terminal (Fig. 9, disclosing the "Mobile station MS 4" moving from "destination A msc 2" to "destination B msc 3" and establishing a "new network connection" with "destination B msc 3" by "location registration 913"); and

ii. implementing preferred treatment of previous connection by the messages used for the setup of the signaling state over the new connection by the said communication terminal (Fig. 9, all messages including and after "905 subscriber data delete request", i.e., "by the messages used for the setup of the signaling state over the new connection by the said communication terminal" and col. 15, lines 12-29, disclosing that the connection with "destination A msc 2", i.e., "the previous connection", is put in a "holding state" with an "ACT flag" set to "2" without being immediately deleted, after the MS 4 moves to a new attachment point, such "holding state" persisting for a

predetermined time period, i.e., such holding state disclosing and teaching a "preferred treatment of the previous connection", thus disclosing this limitation).

Shimbori does not expressly disclose indicating to the network its treatment of the data flow by including a flag in the messages.

Kapoor discloses indicating to the network its treatment of the data flow by including a flag in the messages (Fig. 3, "type of service field 312" and "flags field 321", col. 3, lines 16-19 and 23-25, disclosing "tos field 312", included in an IP packet, that indicates to the receiving network "how an upper layer protocol would like a current packet to be handled, and assigns packets various levels of importance").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Kapoor, in conjunction with the method as disclosed and taught by Shimbori. In particular, Kapoor and Shimbori are combinable to teach and disclose "indicating to the network its preferred treatment of previous connection by including a flag in the messages used for the setup of the signaling state over the new connection by the said communication terminal." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Kapoor, col. 1, lines 5-10).

25. **Claim 33** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,591,101 B1 to Shimbori, in view of U.S. Patent No. 7,193,968 B1 to Kapoor et al., further in view of U.S. Patent Publication No. 2004/0136324 A1 to Steinberg et al.

26. **As to Claim 33,** Shimbori and Kapoor disclose and teach and method as in the parent claim 32.

Steinberg discloses to decide the value of the flag (paragraph 34, disclosing the use of a "route preference factor RPF" to determine the rank or suitability of a particular potential path/route, thus disclosing such "flag") by using information comprising:

i. local management policy (paragraph 33, disclosing "operator or system preference to bias traffic to certain networks or technologies");

ii. communication application configurations (paragraph 33, disclosing "route complexity" that includes factors such as "distance and the number of legs/hops");

iii. status of the interface for the previous connection (paragraph 33, disclosing "potential technology interconversions such as circuit/packet interworking");

iv. cost of using the connections (paragraph 33, "cost, including interconnect cost");

v. available bandwidth of the connection (paragraph 33, disclosing bandwidth);

vi. reliability of the connections (paragraph 33, disclosing "robustness"); and

vii. a weighted sum of the above factors (paragraph 34, disclosing forming such a RPF factor by forming a weighted sum of each variable utilized).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Steinberg, in conjunction with the method as disclosed and taught by Shimbori and Kapoor. The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Kapoor, col. 1, lines 5-10; Steinberg, paragraph 1).

27. **Claims 37 and 43** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,591,101 B1 to Shimbori, in view of U.S. Patent No. 6,310,859 B1 to Morita et al. and U.S. Patent No. 7,193,968 B1 to Kapoor et al., further in view of U.S. Patent Publication No. 2004/0136324 A1 to Steinberg et al.

28. **As to Claim 37,** Shimbori, Morita and Kapoor disclose and teach the method as in the parent claim 35.

Morita further discloses to decide the timer value by using information comprising: iv. the access point load situation (col. 19, line 50 – col. 20, line 58, disclosing determining a timer value by taking into consideration the "frequency of use by each user" and the "working rates of [network] resources", all disclosing access point load situation); v. cost of the link (col. 20, lines 45-51, disclosing that "an increase in the working rates [of a network resource, e.g., a link], results in the reduction in the [timer value], which in turn provides such control that releases resources quickly, [thereby] enabling efficient use of [network resources]", thus the network resource "working rate" teaches "cost" of the network resource, the higher the working rate, the higher the cost to use such network resource, e.g., a link).

Steinberg discloses using the following factors to determine the suitability of an action (paragraph 34, disclosing the use of a "route preference factor RPF" to determine the rank or suitability of a particular potential path/route, thus disclosing such "flag"):

i. the network interface type (paragraph 33, disclosing "potential technology interconversions such as circuit/packet interworking");

ii. last detected signaling strength (paragraph 27, disclosing using "signal strength" to determine whether to initiate handoff actions);

iii. attachment point coverage area (paragraph 33, disclosing taking into consideration the "number of hops/legs ... and the number of domains or service provider boundaries crossed"); and

weighted sum of the plurality of factors (paragraph 34, disclosing forming such a RPF factor by forming a weighted sum of each variable utilized).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Steinberg, in conjunction with the method as disclosed and taught by Morita, Shimbori and Kapoor. In particular, Steinberg, Morita, Shimbori and Kapoor are combinable to teach and disclose "to decide the timer value according to Claim 35 by using information comprising: i. the network interface type; ii. last detected signaling strength; iii. attachment point coverage area; iv. the access point load situation; v. cost of the link; and vi. weighted sum of the above factors." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Kapoor, col. 1, lines 5-10; Steinberg, paragraph 1).

29. **As to Claim 43,** Shimbori, Morita and Kapoor disclose and teach the method as in the parent claim 39.

Morita further discloses to decide the timer value by using information comprising: iv. the access point load situation (col. 19, line 50 – col. 20, line 58, disclosing determining a timer value by taking into consideration the "frequency of use

by each user" and the "working rates of [network] resources", all disclosing access point load situation); v. cost of the link (col. 20, lines 45-51, disclosing that "an increase in the working rates [of a network resource, e.g., a link], results in the reduction in the [timer value], which in turn provides such control that releases resources quickly, [thereby] enabling efficient use of [network resources]", thus the network resource "working rate" teaches "cost" of the network resource, the higher the working rate, the higher the cost to use such network resource, e.g., a link).

Steinberg discloses using the following factors to determine the suitability of an action (paragraph 34, disclosing the use of a "route preference factor RPF" to determine the rank or suitability of a particular potential path/route, thus disclosing such "flag"):

i. the network interface type (paragraph 33, disclosing "potential technology interconversions such as circuit/packet interworking");

ii. last detected signaling strength (paragraph 27, disclosing using "signal strength" to determine whether to initiate handoff actions);

iii. attachment point coverage area (paragraph 33, disclosing taking into consideration the "number of hops/legs ... and the number of domains or service provider boundaries crossed"); and

weighted sum of the plurality of factors (paragraph 34, disclosing forming such a RPF factor by forming a weighted sum of each variable utilized).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Steinberg, in conjunction with the method as disclosed and taught by Morita, Shimbori and Kapoor. In particular,

Steinberg, Morita, Shimbori and Kapoor are combinable to teach and disclose "to decide the timer value according to Claim 35 by using information comprising: i. the network interface type; ii. last detected signaling strength; iii. attachment point coverage area; iv. the access point load situation; v. cost of the link; and vi. weighted sum of the above factors." The suggestion or motivation would have been to provide a more efficient and robust data communication system (Shimbori, col. 1, lines 10-15; Kapoor, col. 1, lines 5-10; Steinberg, paragraph 1).

30. **Claim 44** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,591,101 B1 to Shimbori, in view of U.S. Patent No. 6,310,859 B1 to Morita et al., further in view of U.S. Patent Publication No. 2004/0136324 A1 to Steinberg et al.

31. **As to Claim 44,** Shimbori and Morita disclose and teach the method as in the parent claim 41.

Morita further discloses to decide the timer value by using information comprising: iv. the access point load situation (col. 19, line 50 – col. 20, line 58, disclosing determining a timer value by taking into consideration the "frequency of use by each user" and the "working rates of [network] resources", all disclosing access point load situation); v. cost of the link (col. 20, lines 45-51, disclosing that "an increase in the working rates [of a network resource, e.g., a link], results in the reduction in the [timer value], which in turn provides such control that releases resources quickly, [thereby] enabling efficient use of [network resources]", thus the network resource "working rate"

teaches "cost" of the network resource, the higher the working rate, the higher the cost to use such network resource, e.g., a link).

Steinberg discloses using the following factors to determine the suitability of an action (paragraph 34, disclosing the use of a "route preference factor RPF" to determine the rank or suitability of a particular potential path/route, thus disclosing such "flag"):

i. the network interface type (paragraph 33, disclosing "potential technology interconversions such as circuit/packet interworking");

ii. last detected signaling strength (paragraph 27, disclosing using "signal strength" to determine whether to initiate handoff actions);

iii. attachment point coverage area (paragraph 33, disclosing taking into consideration the "number of hops/legs ... and the number of domains or service provider boundaries crossed"); and

weighted sum of the plurality of factors (paragraph 34, disclosing forming such a RPF factor by forming a weighted sum of each variable utilized).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the teachings disclosed in Steinberg, in conjunction with the method as disclosed and taught by Morita and Shimbori. In particular, Steinberg, Morita and Shimbori are combinable to teach and disclose "to decide the timer value according to Claim 35 by using information comprising: i. the network interface type; ii. last detected signaling strength; iii. attachment point coverage area; iv. the access point load situation; v. cost of the link; and vi. weighted sum of the above factors." The suggestion or motivation would have been to provide a more efficient and robust data

communication system (Shimbori, col. 1, lines 10-15; Kapoor, col. 1, lines 5-10; Steinberg, paragraph 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER CHENG whose telephone number is (571)272-9021. The examiner can normally be reached on M-Th, 8:00AM - 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick W. Ferris can be reached on (571)272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. C./
Examiner, Art Unit 2463

/Derrick W Ferris/
Supervisory Patent Examiner, Art Unit 2463